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United States Patent [19]

Brader et al.

[11] **Patent Number:** 5,786,875[45] **Date of Patent:** Jul. 28, 1998[54] **THERMAL LIQUID CRYSTAL DISPLAY
USING THERMOELECTRIC LINK**[76] **Inventors:** Lawrence Allen Brader, 21314-129th
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98072[21] **Appl. No.:** 616,644[22] **Filed:** Mar. 15, 1996[51] **Int. Cl.⁶** G02F 1/133[52] **U.S. Cl.** 349/20; 349/21[58] **Field of Search** 359/43, 44, 45;
349/20, 21[56] **References Cited****U.S. PATENT DOCUMENTS**3,354,565 11/1967 Emmons et al. .
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1-147526 6/1989 Japan 359/44*Primary Examiner*—Huy Mai*Assistant Examiner*—Walter Malinowski*Attorney, Agent, or Firm*—Graybeal Jackson Haley LLP[57] **ABSTRACT**

The present invention is a thermally addressed display and a method for manufacturing a thermally addressed display. The device uses thermoelectric elements to transition liquid crystal molecules from one optical state to another. The display can be manufactured on a flexible film and can be fabricated as either a color or monochrome display. The display can be constructed as a seven segment display, a pixel based display, or a symbolic display.

18 Claims, 1 Drawing Sheet